

CLIMATOLOGICAL DATA FOR FEBRUARY, 1913.

DISTRICT NO. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

GENERAL SUMMARY.

February, 1913, was both cold and dry. With one exception the month was the driest February since 1904 and there have been but four Februaries since the present series of records began, in 1897, when the precipitation was less than during February, 1913. Moreover the precipitation was by no means uniform. In some portions of the State the month was unusually dry, while in other portions, particularly south of the Tehachapi, the rainfall was unusually heavy and in certain localities broke the record for 24, 48, and 72 hour periods. Nor was the precipitation of a uniform character in the same portion of the State. Thus, for example, at Los Angeles the monthly rainfall exceeded 9 inches, or more than double the normal, whereas at San Diego the rainfall was only slightly above the normal. In the central and northern counties the rainfall was, as stated above, very light. At San Francisco, where a record extending over 64 years has been kept, it appears that only 8 times has the rainfall in February been less than during the month under discussion. In this section of the State the rainfall for the month was but 13 per cent of the normal amount. At Sacramento the rainfall was but 6 per cent of the normal.

The month was colder than usual; but here again conditions were far from being uniform. The southern portion of the State, usually much warmer than the northern and interior sections, was cooler.

The month will probably be remembered for a long while to come in the southern counties because of the phenomenal rain beginning Sunday, February 23, and ending Wednesday, 26th. At Los Angeles on Sunday night and Monday morning there was a rainfall of 5.12 inches, which broke all records for 24-hour rainfall at that place. Not since December 19-20, 1879, had a rainfall of this character occurred. The records for 48-hour rainfall were broken at a number of places in the San Gabriel Valley; at Pasadena 8.54 inches fell; at Los Angeles, 7 inches; and Pomona, 4.40 inches. The area of heaviest precipitation was from Point Conception to San Juan Point. At San Diego the precipitation was not as heavy as might have been expected. The storm was accompanied by heavy snow in the Sierra Madre and a good supply of water is now assured. Near Bear Valley Dam, which is the water supply for the eastern end of the valley, the snow is said to be 7 feet deep on the mountain ridges and 30 feet deep in some of the canyons. Near the Pine Knot Hotel 3 feet of snow fell in 16 hours on February 21. This is said to be one of the heaviest snowfalls known in that vicinity.

The month in the main resembled February, 1912, and was quite different from February, 1911. The pressure

distribution at the beginning of the month was favorable for fair, dry weather. A moderate disturbance which appeared on the northern coast February 3 did not cause rain in the northern counties, although accompanied by cloudy and threatening weather. The depression moved southward slowly and from the 5th to the 8th showery weather prevailed from San Francisco southward. A well-marked and persistent area of high pressure over the northern half of the Pacific slope, extending also over the Great Basin and the Rocky Mountain section, caused slow-moving surface winds from the north, moderately warm during the day and cool at night. An excellent illustration of this type of weather may be found on the evening map for February 15. Afternoon temperatures at various points were as follows: San Luis Obispo, 80°; Los Angeles, 76°; San Diego, 72°; San Francisco, 70°; yet by Sunday morning, 16th, temperatures were from 20 to 30° lower and at San Luis Obispo 38° lower. On February 19 a well-marked depression developed over the Valley of the Colorado, causing high north winds in the southern counties of California followed by heavy frosts Thursday morning. Some injury was done to the almonds which were just coming into blossom. In some localities the fruit was protected by heating devices. In the Sacramento and San Joaquin Valleys temperatures fell as low as 20° in exposed places. On Friday, February 21, a well-marked depression appeared over central and southern California, causing moderate rains in those sections. This depression was followed quickly by another which developed into the most remarkable storm of the season. Beginning Sunday morning, February 23, the storm moved slowly southward over California, causing the phenomenal rains referred to above. The rain continued until the 26th in California, but after this date in adjoining States. The close of the month was marked by moderate frosts.

TEMPERATURE.

The temperature for the State was nearly 2° below the normal. The following table gives the mean temperature for each February during the time for which records have been kept:

Years.	Mean.	Departure.	Year.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897.....	48.0	-0.5	1906.....	52.0	+3.5
1898.....	49.4	+.9	1907.....	53.3	+4.8
1899.....	48.5	0	1908.....	46.8	-.7
1900.....	49.9	+1.4	1909.....	46.6	-.9
1901.....	47.7	-.8	1910.....	48.0	-2.5
1902.....	50.3	+1.8	1911.....	43.7	-4.8
1903.....	43.7	-4.8	1912.....	49.7	+1.2
1904.....	54.5	+6.0	1913.....	46.7	-1.8
1905.....	50.8	+2.3			

The highest temperature recorded at any station was 93° at San Jacinto on the 16th. This was 1° higher than the highest temperature during February, 1912. The lowest temperature was -14°, which occurred on the 22d at Alturas and Tamarack. This was 4° lower than the lowest temperature of February, 1912.

PRECIPITATION.

The average precipitation for California for February, with departures from the normal, is as follows:

Years.	Mean.	Departure.	Year.	Mean.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897.....	5.85	+1.44	1906.....	4.88	+0.47
1898.....	2.95	-1.46	1907.....	4.14	-.27
1899.....	.45	-3.96	1908.....	3.99	-.42
1900.....	.94	-3.47	1909.....	8.00	+3.59
1901.....	6.03	+1.62	1910.....	2.43	-1.98
1902.....	8.14	+3.73	1911.....	3.33	-1.08
1903.....	1.76	-2.65	1912.....	.75	-3.66
1904.....	7.91	+3.50	1913.....	2.07	-2.34
1905.....	4.24	-.17			

The greatest monthly precipitation was 14.20 inches, at Nellie. Four stations reported no rain during the month.

SNOWFALL IN THE MOUNTAINS.

February, 1913, was a month of light snowfall in the Siskiyou, the Coast Range, and the northern portion of the Sierra Nevada. In the Sierra Madre and other ranges of southern California the snow was unusually heavy, and there appears to be ample water for irrigation purposes in the south.

SPECIAL COMPARATIVE REPORTS.

Summit.—The following table shows depth of snow on ground at Summit, Placer County, on several dates in February for a number of years:

Years.	Feb. 1.	Feb. 14.	Feb. 28.
	Inches.	Inches.	Inches.
1907.....	137	95	88
1908.....	88	115	74
1909.....	172	224	213
1910.....	76	70	72
1911.....	228	240	215
1912.....	38	27	23
1913.....	85	55	55

SUNSHINE.

The following table gives the total hours of sunshine and percentages of possible:

Stations.	Hours.	Percent of possible.	Stations.	Hours.	Percent of possible.
Eureka.....	176	59	Sacramento.....	251	83
Fresno.....	220	73	San Diego.....	175	57
Los Angeles.....	179	58	San Francisco.....	205	68
Mount Tamalpais.....	220	73	San Jose.....	210	69
Red Bluff.....	248	83	San Luis Obispo.....	153	50

There was more sunshine in the northern part of the State than in February, 1912, and less sunshine in the southern part.

NOTES ON THE RIVERS OF THE SACRAMENTO AND LOWER SAN JOAQUIN WATERSHEDS DURING FEBRUARY, 1913.

By N. R. TAYLOR, Local Forecaster.

Sacramento watershed.—All streams in this watershed fell steadily during the greater part of the month. The main rivers averaged from 5 to 7 feet below the February normal and from 1 foot to over 2 feet below the stages that obtained during the preceding month.

The Sacramento River at all points below Red Bluff was but slightly above the unusually low stages that were recorded during the corresponding month of 1912. From Red Bluff to Kennett the river was the lowest of any previous February of which there is a record.

The American River averaged only 0.5 of a foot above the stage of February, 1912, which is the lowest on record for the month.

The Feather and Yuba Rivers and their tributaries were the lowest of which there is a record for the month, their average stages being comparable with those maintained during the extreme low water period.

There was a marked deficiency in precipitation throughout the drainage basin of the Sacramento Valley. But little snow fell in the high regions of the Sierra Nevada and practically none at all below the 3,500-foot level. The snow already on the ground at the beginning of the month diminished steadily, mostly by evaporation, and without any appreciable effect on the run-off of the mountain streams, many of which were frozen over during the entire month.

The visible water supply is much below that of January 31, and the present outlook is not encouraging.

Lower San Joaquin watershed.—Much less than the usual amount of precipitation occurred in this watershed, and as a result all streams, already low at the beginning of the month, continued to fall steadily, their average stages being much below the February normal.

The Calaveras River and the San Joaquin itself, below Lathrop, were the lowest on record for the month of February.

The visible water supply is below the average.

NOTES ON THE STREAMS OF THE UPPER SAN JOAQUIN WATERSHED.

By W. E. BONNETT, Local Forecaster.

Mean February stages at all points on the streams of the upper San Joaquin watershed were the lowest of record for that month. The Merced was slightly lower than in January, the San Joaquin remained at exactly the January stage, and the Kings was a trifle higher.

February precipitation in the Kings River watershed was slightly in excess of the normal. It is probable that there was some excess over normal February precipitation in the watershed of the main stream, while there was a deficiency farther north in the Merced area. Slight rises at all points, except at Firebaugh, followed the rains of the 23d to 26th, but by the end of the month there was a recession everywhere almost to the low stages which prevailed before the rains.

At Merced Falls the average stage for February was 0.3 foot, as compared with a seven-year average of 0.9 foot. At Friant there was a mean of -0.6 foot; the seven-year average is 0.8 foot. The San Joaquin at Firebaugh was stationary at -0.9, as compared with an average of 3.4

TABLE 1.—Climatological data for February, 1913. District No. 11, California.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Klamath Agency.	Klamath.	4,169	5	17.4		21.8	-11.7	45	14	-5	28	40	0.05	-1.51	0.02	0.4	4	16	n.e.	
Klamath Falls.	do.	4,100	24	20.8	-11.7	45	15	0	28	29	0.05	-1.51	0.02	0.4	4	15	10	3	n.w.	
Lakeview.	Lake.	4,825	30	24.6		55	13	-4	22	43	0.17	-1.48	0.07	1.7	3	11	9	8	s.s.	
Merrill.	Klamath.	4,070	8	20.2		50	21	-7	22	39	0.12	-1.42	0.10	1.0	1	22	3	3	U. S. Reclamation Service.	
Yonna.	do.	4,146	6	17.0		37	14†	-16	22	48	0.10	-1.40	0.10	1.0	1	11	11	6	n.n.	
California.																				
Alturas.	Modoc.	4,400	9	22.4		52	14	-14	23	55	0.16	-0.68	0.12	2.0	2	19	5	4	n.e.	
Angiola.	Tulare.	208	13	53.6	+ 3.7	74	15	33	19	27	1.53	+0.68	1.20	0	4	20	0	8	n.n.	
Antioch **.	Contra Costa.	46	34	55.9	+ 5.1	76	12†	31	12†	52	-1.48	0.45	0	2	20	0	8	Southern Pacific Co.		
Aptos **.	Santa Cruz.	102	28	49.8	+ 0.3	68	5	30	20	0.34	-4.09	0.28	0	2	14	8	6	n.w.		
Arrowhead Springs.	San Bernardino.	2,000	4	56.4		75	16	42	20	19	6.65	-2.00	0	11	16	5	7	Do.		
Auburn.	Placer.	1,360	42	47.9	-0.2	70	16	28	21	32	0.40	-5.18	0.37	0	3	15	1	12	Dr. E. J. Erikson.	
Avalon.	Los Angeles.	30	3	53.4		68	9	42	23	18	0.56	-2.50	0	9	15	8	5	T. S. Manning.		
Azusa.	do.	540	11	50.8	-2.9	81	15	26	20	47	8.82	+5.57	4.25	0	9	16	1	11	A. P. Griffith.	
Bagdad.	San Bernardino.	784	10	56.8	-0.5	74	15†	34	3	27	0.00	-0.53	0.00	0	0	0	0	0	Santa Fe Co.	
Bakersfield.	Kern.	404	24	51.2	-1.1	80	16	29	20	39	-	-	-	-	-	-	-	-	Do.	
Barstow.	San Bernardino.	2,105	10	49.9	-1.8	76	15†	24	3	40	1.17	+0.68	0.38	0	5	20	0	8	E. L. White.	
Berkeley.	Alameda.	317	26	51.4	+ 1.4	73	15	33	21†	25	0.64	-4.00	0.37	0	7	12	6	10	State University.	
Betterville.	Santa Barbara.	51.4		76	15	26	19	35	1.66	-	-	0.47	0	9	13	7	8	Union Sugar Co.		
Biggs **.	Butte.	98	14	48.4	-1.1	80	16	26	22	43	1.06	-2.38	0.48	0	3	18	3	7	Southern Pacific Co.	
Bishop.	Inyo.	4,450	36.7	6.3	68	14†	10	28	43	40	-1.37	1.25	12.0	0	7	7	16	5	Do.	
Bishop Creek.	do.	8,500	3	26.2		46	4†	23	33	4.30	-	1.40	43.0	7	-	-	-	-	Victor Hope.	
Blocksburg.	Humboldt.	1,700	7	45.3		67	4†	20	22†	33	0.68	-	0.63	2.0	2	7	16	5	n.n.	
Blue Canon.	Placer.	4,695	14	38.4	-0.5	69	19	10	22	46	3.75	-9.04	1.60	37.5	6	24	0	4	S. C. L. Suits.	
Blythe.	Riverside.	268	12	52.8		82	16†	19	3	50	0.83	-	0.42	0	4	14	7	7	Do.	
Branscomb.	Mendocino.	2,000	13	44.2	-0.5	77	1	20	12	44	0.68	-16.87	0.40	2.5	3	19	6	3	A. J. Haun.	
Brawley.	Imperial.	-105	45.2		80	15	29	2	40	0.44	-	0.15	0	4	-	-	-	-	M. D. Witter.	
Burney.	Shasta.	3,300	3	33.2		63	15	5	26	40	0.70	-	0.70	7.0	1	19	4	5	Mrs. M. D. Chambers.	
Cahuilla.	Riverside.	3,600	2	40.4		71	14	12	17	42	1.55	-	0.55	4.5	4	7	14	7	sw.	
Calexico.	Imperial.	0	8	56.4		78	16†	38	3†	34	0.40	-	0.28	0	3	20	0	8	n.w.	
Caliente **.	Kern.	1,290	37	47.9	-3.9	76	17	31	20	-	2.35	+0.29	0.80	T.	5	16	1	11	Do.	
Calistoga **.	Napa.	363	41	49.0	-1.1	69	14	25	21†	30	0.30	-5.62	0.30	0	1	12	4	12	Southern Pacific Co.	
Campbell.	Santa Clara.	217	16	48.5	-1.8	70	15	28	28	35	0.08	-2.48	0.04	0	2	15	5	5	Do.	
Camptonville (near).	Yuba.	3,500	6	45.0		73	15	24	20†	34	1.92	-	0.79	19.0	4	16	17	5	F. M. Righter.	
Cedarville.	Modoc.	4,675	19	27.5	-6.4	68	16†	9	24†	30	-0.30	-1.57	6.5	3	15	10	3	n.n.		
Chico.	do.	2,421	42	43.3	-2.6	59	11	22	28	25	0.30	-2.94	0.69	0	2	21	0	7	John O. Ogle.	
China Flat.	Butte.	189	43	48.9	-1.1	74	15	22	20	41	0.82	-	0.24	0	1	18	8	2	G. H. Stephenson.	
Humboldt.	San Bernardino.	600	4	46.1		68	16	20	23	41	0.34	-	0.34	0	1	18	8	2	O. I. Westerburg.	
Claremont.	Placer.	5,939	42	32.0	+ 1.7	78	17	14	22	30	5.30	-	2.71	1.32	0	6	17	0	11	Southern Pacific Co.
Cloverdale.	Los Angeles.	1,200	21	50.4	-1.7	78	15†	32	21†	38	8.32	+5.58	2.25	0	10	12	5	11	Do.	
Coalinga.	Sonoma.	340	11	50.5	+ 0.5	78	15	23	13	33	0.23	-7.75	0.14	0	2	22	12	4	Prof. F. P. Brackett.	
Colfax.	Fresno.	663	1	51.2		90	18	25	23	34	0.82	-	0.45	0	5	17	2	9	Union Oil Co.	
Colusa.	do.	2,421	42	43.3	-2.6	59	11	22	28	25	0.32	-7.33	2.0	3.2	3	21	4	3	Southern Pacific Co.	
Corning **.	Tehama.	60	10	47.9b	-1.8	71	14	26	28	33	0.46	-2.13	0.43	0	3	23	3	2	C. D. McComish.	
Cuyamaca.	San Diego.	277	17	52.3	+ 3.5	78	16	32	29†	30	0.31	-3.16	0.19	0	3	13	2	2	Southern Pacific Co.	
Davisville.	San Diego.	4,677	14	37.5	-0.3	62	15	19	26	32	11.88	+1.00	5.86	0	11	12	3	13	Cuyamaca Water Co.	
Deer Creek.	Yolo.	51	41	48.6	-3.0	73	14†	21	28	40	0.15	-2.69	0.15	0	1	18	9	0	S. H. Beckett.	
Del Monte.	Nevada.	3,700	6	37.0		62	15	9	23	37	2.09	-	0.87	20.0	5	19	2	7	Cal. Gas & Electric Co.	
Delta.	Monterey.	25	52.0		70	6†	30	3	28	30	-	0.10	0	1	18	5	5	Do.		
Denair.	Shasta.	1,138	28	49.3	+ 3.7	68	8	28	23	25	0.50	-8.77	0.50	1.5	2	25	1	1	H. R. Warner.	
Stanislaus.	do.	126	13	48.8	-1.4	68	16	27	20	33	0.15	-1.45	0.15	0	1	14	0	14	Southern Pacific Co.	
De Sabla.	Butte.	2,500	9	43.8		68	15	19	22	32	3.00	-	2.00	18.0	3	18	13	2	Do.	
Dobbins (near).	Colusa.	60	10	47.9b	-1.8	71	14	26	28	33	0.46	-2.13	0.43	0	3	23	3	2	Southern Pacific Co.	
Downieville.	Tehama.	277	17	52.3	+ 3.5	78	16	32	29†	30	0.31	-3.16	0.19	0	3	13	2	2	Do.	
Dudley.	Kings.	595	1	51.7		73	17	30	23	33	1.33	-	0.60	0	6	17	5	5	J. T. Mason.	
Dudleys (near).	Mariposa.	3,000	4	40.4		68	5	15	22	40	1.45	-	0.45	6.0	7	11	1	6	Union Oil Co.	
Dunlap (near).	Fresno.	2,800	1	41.4		65	1†	20	19†	34	5.37	-	0.29	-2.70	0.29	0	1	7	10	U. S. Forest Service.
Dunnigan **.	Yolo.	05	36	52.8	+ 3.6	72	16	28	3	30	0.29	-	1.65	-6.97	1.40	16.5	3	25	Southern Pacific Co.	
Dunsmuir **.	Siskiyou.	2,285	24	38.8	-2.7	63	12	21	22†	29	1.65	-	0.65	0	2	21	0	3	Do.	
Durham.	Butte.	160	18	48.0	-1.8	73	15†	22	21	33	0.71	-3.55	0.65	0	2	19	5	4	R. W. Durham.	
El Cajon.	San Diego.	483	14	53.0	-1.2	82	15	31	20	50	3.10	+ 0.43	0.93	0	11	16	4	8	H. H. Kessler.	
Electra.	Amador.	725	9	48.8		73	8	28	19†	38	0.29	-	0.17	-	0.17	2	18	4	6	California Gas & Electric Co.
Emigrant Gap.	Placer.	5,230	39	36.8	+ 1.4	57	16	17	23	24	1.72	-6.47	1.20	17.2	7	18	4	6	Southern Pacific Co.	
Escondido.	do.	657	19	51.8	-0.5	78	15	28	20	42	4.21	+ 1.41	0.76	0	11	24	0	6	A. R. Moon.	
Eureka.	Humboldt.	64	27	44.6	-2.2	63	6	30	23	32	0.30	-8.78	0.20	2.0	2	25	4	8	U. S. Weather Bureau.	
Farmington **.	San Joaquin.	111	34	49.2	-0.9	65	6	34	6	-	0.00	-	2.71	0.09	0	0	18	5	5	Southern Pacific Co.
Folsom.	Sacramento.	252	41	49.2	-1.0	70	14	29	22	30	0.56	-	3.27	0.24	0	4	22	0	6	F. O. Hutton.
Fordyce Dam.	Nevada.	6,500	18	36.1		57	15	10	22†	30	1.31	-8.73	0							

TABLE 1.—Climatological data for February, 1913. District No. 11—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Sky.	Prevailing wind direction.	Observers.			
				Mean.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Greatest in 24 hours.	Total snowfall, unmetted.	Number of rainy days, 0.01 inch or more.				
<i>California—Continued.</i>																	
Indio.	Riverside.	-20	35	57.3	-1.5	83	13	31	34	40	+ 0.47	0.30	0	4	nw.	F. N. Johnson.	
Inskip.	Butte.	4,975	6	40.8	66	15	18	22	30	1.62	-	1.30	18.5	2	11	13	California Gas & Electric Co.
Ione **.	Amador.	287	35	48.4	+ 0.2	68	51	34	37	0.00	-	0.00	0	0	27	0	Southern Pacific Co.
Jamestown.	Tuolumne.	1,471	10	45.1	-1.8	70	25	20	31	1.10	-	0.80	0	3	20	0	Sierra Ry. Co.
Kennett.	Shasta.	730	1	47.2	75	15	25	27	31	1.57	-	1.28	2.0	3	16	10	O. J. Egleston.
Kentfield.	Marin.	65	25	49.1	70	15	27	20	33	1.16	-	0.42	0	6	17	4	Miss M. E. Parsons.
King City.	Monterey.	333	26	55.7	+ 5.9	84	18	23	20	57	0.85	-	1.12	0.52	15	10	Southern Pacific Co.
Lake Eleanor.	Tuolumne.	4,700	3	35.0	-	64	14	8	28	43	0.65	-	0.30	10.0	7	13	O. J. Todd.
La Porte.	Plumas.	5,000	19	35.8	+ 0.8	63	15	22	27	32	1.14	-	12.63	11.4	9	6	Chas. W. Hendel.
Le Grand.	Merced.	255	13	46.8	-1.7	68	13	23	20	33	0.82	-	1.30	0.50	0	3	Santa Fe Co.
Lemon Cove.	Tulare.	600	18	52.8	-0.2	70	16	24	19	40	2.93	+ 0.05	1.75	0	5	G. W. Sandidge.	
Lick Observatory.	Santa Clara.	4,209	24	39.7	-0.7	57	16	21	22	16	0.48	-	4.44	0	4	The Director.	
Livermore.	Alameda.	485	42	51.8	+ 0.2	80	15	26	28	44	0.35	-	2.03	0.31	0	5	E. G. Still.
Lone Pine.	Inyo.	2,728	8	41.3	-	67	15	17	31	39	2.71	-	1.07	15.0	5	G. F. Marsh.	
Long Valley.	Lassen.	4,400	4	30.6	-	55	15	3	22	28	0.35	-	0.16	5.0	3	A. G. Evans.	
Los Angeles.	Los Angeles.	293	36	53.8	-0.3	76	15	39	20	35	9.16	+ 5.89	5.12	T.	10	9	U. S. Weather Bureau.
Los Banos **.	Merced.	121	26	53.9	+ 3.0	67	8	36	26	..	1.09	-	0.52	0	3	Southern Pacific Co.	
Los Gatos.	Santa Clara.	600	26	51.0	+ 1.0	71	15	33	28	34	0.24	-	5.34	0	1	F. H. McCullagh.	
McCloud.	Siskiyou.	3,410	3	35.2	-	61	15	7	28	41	0.92	-	0.65	11.0	2	F. F. Spencer.	
Macdoel.	do.	4,528	8	18.6	-	48	16	-9	3	36	0.30	-	0.20	3.0	2	Butte Valley Land Co.	
Madelaine.	Lassen.	5,270	4	23.8	-	54	15	-14	22	45	0.55	-	0.25	7.5	6	J. H. Williams.	
Magalia.	Butte.	2,321	9	44.8	-	74	16	23	19	40	0.60	-	0.60	6.0	1	Butte Co. R. R. Co.	
Mammoth Tank.	Imperial.	257	35	60.8	+ 1.9	82	15	37	20	33	0.18	+ 0.34	0	3	Southern Pacific Co.		
Maricopa.	Kern.	640	2	51.0	-	75	15	29	19	38	2.94	-	2.16	0	4	Union Oil Co.	
Marysville.	Yuba.	67	42	49.8	-1.5	72	14	27	22	35	0.91	-	0.91	0	1	Southern Pacific Co.	
Mecca.	Riverside.	-185	7	55.2	-	82	13	28	3	46	0.44	-	0.20	0	3	E. A. Palmer.	
Mendocino Park **.	San Mateo.	64	35	52.1	+ 1.9	60	71	30	23	..	0.34	-	-2.20	0	0	Southern Pacific Co.	
Merced.	Merced.	173	39	-	-	-	-	-	-	-	-	-	-	-	-	Santa Fe Co.	
Middlewater.	Kern.	803	2	51.2	-	71	15	29	23	29	2.46	-	1.07	0	5	Union Oil Co.	
Mill Creek (1).	Amador.	2,500	6	43.9	-	73	14	18	22	40	0.69	-	0.29	4.2	3	California Gas & Electric Co.	
Milton (near).	Calaveras.	660	22	50.2	-0.6	67	15	31	23	0.05	-	3.50	0.04	0	2	J. H. Southwick.	
Modesto **.	Stanislaus.	90	41	51.2	+ 1.1	70	16	31	22	..	0.10	-	1.41	0.06	0	Southern Pacific Co.	
Mojave.	Kern.	2,751	36	49.8	+ 1.0	78	16	26	28	38	0.48	-	0.20	1.0	5	Do.	
Mokelumne Hill.	Calaveras.	1,550	20	48.6	+ 1.8	68	13	28	30	0.26	-	4.07	0.20	0	C. E. Prindle.		
Mono Ranch.	Ventura.	3,210	7	-	-	-	-	-	-	-	-	-	-	-	-	Herbert Lathrop.	
Montague.	Siskiyou.	2,450	25	36.0	-4.4	60	15	12	28	38	0.11	-	1.48	0.05	1.5	I. E. Deboy.	
Monterey.	Monterey.	15	48	52.2	+ 1.0	68	6	34	28	0.36	-	2.38	0.22	0	Southern Pacific Co.		
Monterio.	Kern.	4,500	14	42.0	-5.2	62	13	29	28	4.73	+ 1.12	1.25	0	9	John C. Knecht.		
Mount Tamalpais.	Marin.	2,375	14	46.8	+ 0.2	65	16	30	21	19	0.96	-	3.47	0.60	3.2	U. S. Weather Bureau.	
Napa City.	Napa.	20	36	46.6	-2.0	66	17	26	23	32	0.30	-	3.68	0.30	0	Alex. Hull.	
Napa (S. H.).	do.	60	35	52.8	+ 2.2	71	15	34	22	27	0.70	-	3.65	0.30	0	A. R. Edgar.	
Needles.	San Bernardino.	477	21	55.5	-2.1	82	16	38	37	1.56	+ 1.13	0.40	0	7	Santa Fe Co.		
Nellie.	San Diego.	5,350	4	36.28	-	63	15	12	28	38	0.11	-	1.48	0.05	1.5	T. O. Bailey.	
Nevada City.	Nevada.	2,850	21	42.4	-0.7	72	20	44	11	1.23	-	0.86	5.95	8	S. W. Marsh.		
Newhall **.	Los Angeles.	1,200	36	55.4	+ 5.2	78	18	35	3	11.83	+ 8.55	4.30	18.0	7	Southern Pacific Co.		
Newman.	Stanislaus.	91	24	52.5*	+ 0.9	74	15	30	24	34	0.82	-	0.89	0.42	0	E. S. Wangenheim.	
North Bloomfield.	Nevada.	3,214	16	47.4d	+ 4.2	68	14	20	22	2.10	-	1.40	21.0	3	J. R. McIntosh.		
North Fork.	Madera.	3,000	9	-	-	-	-	-	-	-	-	-	-	-	-	U. S. Forest Service.	
Oakdale **.	Stanislaus.	156	19	49.2	+ 1.1	71	16	31	19	0.29	-	2.18	0.20	0	Southern Pacific Co.		
Oak Grove.	San Diego.	2,751	3	-	-	-	-	-	-	-	-	-	-	-	-	B. L. Johnson.	
Oakland.	Alameda.	36	37	51.0	+ 0.7	66	17	35	29	22	0.46	-	3.48	0.29	0	Chabot Observatory.	
Oceanside.	San Diego.	60	3	53.2	-	72	9	36	20	24	2.73	-	0.86	0	9	H. D. Brodie.	
Ojai Valley.	Ventura.	900	7	51.0	-	80	15	26	20	41	11.12	-	0	0	7	W. H. Duncan.	
Orland.	Glenn.	254	31	49.6	-1.6	75	15	26	27	34	0.13	-	2.80	0.13	0	U. S. Reclamation Service.	
Orleans.	Humboldt.	520	10	49.8	-0.6	76	14	23	22	49	0.23	-	9.63	0.23	0	F. T. Hale.	
Oroville (near).	Butte.	250	29	49.6	-1.0	71	16	23	21	31	0.70	-	3.63	0.49	0	E. D. Fairchild.	
Palermo.	do.	213	29	47.6	-2.0	71	11	23	19	42	1.20	-	2.68	0.55	0	Western Pacific Co.	
Palm Springs **.	Riverside.	584	24	51.4	-6.6	78	13	32	3	2.67	+ 1.79	1.13	0	6	Southern Pacific Co.		
Passadena.	Los Angeles.	827	23	51.0	-1.4	79	15	29	20	37	11.20	+ 9.39	6.25	0	E. D. Sorver.		
Paso Robles.	San Luis Obispo.	800	26	49.0	+ 0.7	76	16	20	20	45	1.88	-	1.05	1.20	0	Dr. F. W. Sawyer.	
Peachland.	Sonoma.	190	17	49.6	-0.6	75	14	25	23	42	7.15	-	0.42	-	5	E. H. Parnell.	
Petaluma.	do.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Placerville.	El Dorado.	1,375	24	42.7	-1.6	64	14	24	18	30	0.47	-	5.84	0.23	0	A. E. May.	
Point Lobos.	San Francisco.	250	20	51.5	-0.2	67	15	41	23	19	0.57	-	2.56	0.43	0	John Hyslop.	
Point Reyes.	Marin.	490	21	50.0	+ 0.2	65	15	40	24	15	0.14	-	3.33	0.10	0	U. S. Weather Bureau.	
Pomona.	Los Angeles.	-	-	51.8	-	81	15	27	20	46	8.35	-	2.28	0	9	Leslie McAuliff.	
Porterville.	Tulare.	464	24	52.2	+ 0.4	78	17	31	5	35	2.78	+ 1.16	1.57	0	0	U. S. Forest Service.	
Quincy.	Plumas.	3,400	18	33.2	-3.6	83	15	10	22	43	1.20	-	6.09	0.39	0	U. S. Weather Bureau.	
Red Bluff.	Tehama.	307	36	50.4	+ 1.1	75	15	30	28	31	0.41	-	3.29	0.39	0	W. W. Jones.	
Redding.	Shasta.	552	38	51.0	+ 1.7	78	15	30	15	48	0.98	-	4.59	0.63	1	W. S. Devol.	
Redlands.	San Bernardino.	1,352	20	50.6	-2.3	78	16	28	20	40	3.64	+ 0.83	1.07	3.0	12	Santa Fe Co.	
Reedley.	Fresno.	347	13	49.6	+ 2.0	74	16	23	20	34	1.55	-	0.20	0	4	J. H. D. Cox.	
Rialto (near).	San Bernardino.	2,250	7	51.4	-	78	16	36	22	9.37	-	3.42	1.5	12	7	Southern Cal. Edison Co.	
Riverside.	Riverside.	S51	31	52.4	-0.3	83	16	23	20	45	3.75	+ 1.77	0.87	T.	9	Southern Pacific Co.	
Rocklin.	Placer.	249	42	47.6	-2.5	70	15	25	23	35	0.12	-	3.53	0.12	0	Dr. R. Callahan.	
Rohnerville.	Humboldt.	75	10	47.0	-	69	6	26	22	29	0.59	-	7.57	0.39	0	U. S. Weather Bureau.	
Sacramento.	San Jose.	71	36	50.1	-0.1	70	16	33	28	26	0.16	-	2.99	0.08	0	E. E. Hooper.	
St. Helena.	Santa Clara.	355	4	49.6	-	75	15	26	23	41	0.44	-	0.34	0	3	Miss E. Ruth Abbott.	
Salinas.	Monterey.	40	39	51.8	+ 1.5	71	15	33	30	25	-	2.06	0.18	0	12	Dr. A. K. Johnson.	
San Bernardino.	San Bernardino.	1															

TABLE 1.—Climatological data for February, 1913. District No. 11—Continued.

Stations.	Counties.	Elevation, feet	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.
<i>California—Continued.</i>																		
Selma **	Fresno.	311	27	48.8	- 1.2	68	15	25	20	1.33	- 0.07	0.73	0	4	21	0	7	Southern Pacific Co.
Seven Oaks.	San Bernardino.	5,000	3	34.7	.....	62	14	16	22	34	4.13	1.34	21.4	11	13	0	15	M. Lewis.
Sierra Madre.	Los Angeles.	1,400	18	51.2	- 3.2	75	15	34	20	25	9.39	+ 4.62	5.40	T.	8	11	5	Mrs. A. E. Gregory.
Sierraville.	Sierra.	5,000	3	22.6	.....	49	17	- 7	28	49	1.20	0.40	12.0	5	15	2	C. D. Johnson.	
Sisson.	Siskiyou.	3,555	24	32.3	- 4.6	55	16†	9	21†	33	1.20	- 4.50	1.00	12.0	3	19	4	n.
Soledad **	Monterey.	188	39	57.0	+ 6.8	75	10†	43	4†	28	0.30	- 1.28	0.20	0.0	2	14	0	Do.
Sonora.	Tuolumne.	1,825	25	45.7	.....	67†	15	28	20†	27	1.32	- 4.50	0.49	4.0	5	18	6	Chas. P. Jones.
Southeast Farallon.	San Francisco.	30	10	50.2	- 1.4	60	6	44	22	13	0.30	- 3.08	0.15	0	5	15	3	U. S. Weather Bureau.
Springville.	Tulare.	4,000	6	40.4	.....	68	15	16	23	33	5.26	.....	2.50	19.0	6	15	0	D. L. Wishon.
Squirrel Inn.	San Bernardino.	5,280	3	37.1	.....	58	16	22	19†	20	12.97	.....	5.00	48.0	11	15	0	A. D. Frantz.
Stanwood.	Butte.	2,140	9	43.4	.....	84	13	28	1†	32	1.07	.....	0.51	2.0	3	24	0	Cal. Gas & Electric Co.
Stirling City.	do.	3,525	9	43.6	.....	70	15	20	17†	35	0.80	.....	0.80	13.0	1	21	5	Butte County R. R. Co.
Stockton (S. H.)	San Joaquin.	23	42	48.7	- 1.3	71	14	28	22	32	0.04	- 2.31	0.02	0	2	20	4	State Hospital.
Storey.	Madera.	296	13	47.5	- 1.1	67	13	22	20†	32	1.55	- 0.14	0.55	0	3	18	4	Santa Fe Co.
Suisun **	Solano.	26	33	52.4	+ 0.9	78	15	30	33	.....	0.20	- 3.14	0.20	0	1	15	8	Southern Pacific Co.
Sulphur Banks.	Lake.	1,350	42	47.0	.....	73	14†	27	27	41	0.21	.....	0.12	0	2	21	6	L. S. Lorenzen.
Summit.	Placer.	7,017	40	27.8	- 1.0	44	9†	5	18	32	2.05	- 5.88	0.60	20.5	7	15	1	Southern Pacific Co.
Susanville.	Lassen.	4,175	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Penry.
Tamarack.	Alpine.	8,000	7	19.2	.....	42	2†	- 10	25	47	2.38	- 6.29	0.58	29.0	9	14	5	Cal. Gas & Electric Co.
Tehachapi **	Kern.	3,964	36	41.4	+ 2.1	86	3†	29	22	.....	3.57	+ 0.98	1.27	12.0	8	13	0	Southern Pacific Co.
Tehama.	Tehama.	220	42	49.2	- 1.8	75	16	31	22	T.	.....	- 2.75	T.	0	0	20	2	Do.
Tejon Rancho.	Kern.	1,500	10	50.3	- 0.6	74	16†	32	4	36	2.90	+ 0.97	1.85	T.	7	18	6	S. E. Bailey.
Three Rivers.	Tulare.	870	3	48.8	.....	75	16	26	20	38	3.21	.....	1.15	0	7	14	6	J. H. Pierce.
Towle.	Placer.	3,704	27	41.0	- 1.0	68	1	14	22	31	2.60	- 8.20	1.50	26.0	3	20	6	Southern Pacific Co.
Tracy **.	San Joaquin.	64	33	47.4	- 3.1	66	27†	32	3†	.....	0.13	- 1.32	0.08	0	2	16	8	Do.
Ukiah.	Mendocino.	620	20	47.9	+ 0.3	76	15	20	23	45	0.48	- 5.69	0.25	0	4	16	9	Dr. Geo. McCowen.
Upper Lake.	Lake.	1,350	28	47.1	+ 0.1	75	14†	19	22	51	0.19	- 4.29	0.19	T.	1	14	8	C. M. Hammond.
Vacaville.	Solano.	175	25	52.8	+ 1.8	76	14	27	28	35	0.35	- 3.79	0.19	0	3	18	6	G. O. Coburn.
Valley Springs **.	Calaveras.	673	24	52.3	+ 1.1	73	16	31	19	.....	0.12	- 3.56	0.07	0	2	22	4	Southern Pacific Co.
Visalia.	Tulare.	334	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Warner Springs.	San Diego.	3,165	5	45.6	.....	80	15	24	19	47	4.80	.....	1.47	1.5	12	15	6	Mrs. F. S. Sandford.
Wasco.	Kern.	336	13	48.5	- 1.1	73	16	26	20	35	1.68	+ 0.38	0.90	0	3	16	2	Santa Fe Co.
Watsonville.	Santa Cruz.	23	17	51.5	- 0.4	77	15	38	22†	40	0.37	- 3.54	0.19	0	3	11	15	Spreckels Sugar Co.
Weaverville.	Trinity.	2,162	1	38.5	.....	64	16	12	3	44	0.27	- 5.53	0.15	3.5	3	16	9	U. S. Forest Service.
Wettchpee.	Humboldt.	1,700	3	41.9	.....	63	16	23	22†	33	0.48	.....	0.25	3.0	5	23	2	M. E. Lathrop.
Westley **.	Stanislaus.	90	24	51.8	- 0.1	71	16	30	28	.....	0.18	- 1.34	0.10	0	2	18	0	Southern Pacific Co.
Wheatland.	Yuba.	84	26	47.8	- 1.1	70	14	27	22	31	0.83	- 2.63	0.43	T.	3	16	10	Wm. Lumbard.
Willows.	Glenn.	136	34	49.6	+ 0.8	76	15	24	8	41	T.	- 2.49	T.	0	0	18	6	E. C. Mills.
Yorba Linda.	Orange.	.....	.....	52.7	.....	73	15	33	20	30	6.10	.....	1.58	0	11	15	3	S. J. Walker.
Yosemite.	Mariposa.	3,945	9	33.3	.....	77	18	8	23	62	1.60	.....	0.90	20.0	3	16	5	J. P. Kelly.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for February, 1913. District No. 11, California.*

TABLE 2.—*Daily precipitation for February, 1913. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for February, 1918. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for February, 1913. District No. 11—Continued.*

Stations.	Watershed.	Day of month.																								Total.				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
<i>California—Continued.</i>																														
Valley Springs.....	San Joaquin.....																										.07	.05		
Visalia.....	do.....																													0.12
Warner Springs.....	Coast.....																													4.80
Wasco.....	San Joaquin.....																													1.68
Watsonville.....	Coast.....																													0.37
Weaverville.....	do.....																													0.27
Welchpeo.....	Klamath.....																													1.06
West Branch.....	Sacramento.....																													0.48
Westley.....	San Joaquin.....																													0.18
West Point.....	do.....																													0.76
West Satcoy.....	Coast.....																													9.07
Wheatland.....	Sacramento.....																													0.83
Willows.....	do.....																													T.
Yorba Linda.....	Coast.....																													6.10
Yosemite.....	San Joaquin.....																													1.60

* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

‡ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures at selected stations for February, 1913. District No. 11, California.

Date.	Lakeview, Oreg.	California.																										
		Alturas.		Barstow.		Brans- comb.		Brawley.		Colusa.		Eureka.		Fresno.		Independ- ence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porter- ville.		Red Bluff.		
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
1.	36	17	39	-5	70	35	77	41	77	37	.....	.....	53	38	66	44	59	34	57	46	56	49	71	29	77	44	68	53
2.	31	4	38	-5	64	36	62	35	69	29	.....	.....	60	37	61	39	50	26	64	43	54	41	72	29	69	41	61	38
3.	37	9	47	-8	63	24	56	28	70	36	.....	.....	53	38	65	38	47	20	63	45	46	38	61	25	57	39	57	34
4.	35	19	48	-2	64	30	57	35	70	50	.....	.....	56	45	62	34	50	18	65	45	47	40	61	23	56	32	56	37
5.	46	16	45	4	62	32	57	38	67	50	.....	.....	56	44	65	37	52	21	64	50	51	40	64	26	66	31	62	38
6.	33	19	45	1	64	36	58	37	62	45	.....	.....	63	45	66	43	53	25	73	57	54	44	67	28	69	40	66	44
7.	33	21	39	-2	62	38	58	35	63	51	.....	.....	60	43	69	48	48	38	60	51	52	45	69	30	71	42	68	45
8.	46	17	44	-3	64	40	60	33	70	52	.....	.....	58	43	67	51	42	32	62	51	52	42	62	28	71	44	65	44
9.	37	16	42	0	66	34	66	32	72	42	64	38	52	42	64	40	52	33	71	49	53	43	61	30	70	43	65	45
10.	49	9	38	0	71	32	67	33	74	45	64	38	46	43	63	38	56	31	69	49	59	44	65	28	68	40	68	40
11.	49	10	40	-3	70	38	67	33	73	41	64	36	46	41	67	44	60	34	63	45	55	48	67	26	72	40	71	40
12.	54	12	42	-7	68	34	68	33	72	42	64	33	48	36	69	41	60	33	61	46	56	47	69	25	70	43	68	42
13.	55	12	43	-4	70	36	69	32	76	40	65	33	46	39	69	41	60	30	65	40	63	50	69	27	72	41	66	36
14.	39	19	52	8	75	35	70	31	79	38	71	35	54	40	67	43	65	30	67	48	60	45	73	28	72	43	69	40
15.	50	19	50	11	76	38	74	30	80	40	69	47	54	42	73	46	67	38	76	41	62	54	70	33	76	41	75	50
16.	42	22	50	12	76	39	60	29	77	40	68	39	57	42	74	47	64	31	73	50	65	51	72	31	76	43	71	45
17.	40	23	42	24	74	38	54	26	76	48	62	46	48	43	66	45	65	35	63	44	53	38	61	32	78	43	60	45
18.	30	8	31	7	69	39	54	25	76	48	59	37	47	36	57	35	45	24	62	48	47	35	51	23	67	41	54	38
19.	33	19	34	19	66	34	57	23	59	45	57	40	43	32	56	28	38	24	56	43	45	35	45	23	57	33	56	39
20.	27.	9	38	6	64	28	55	25	57	34	56	28	46	37	54	28	38	22	57	39	46	36	50	17	58	34	58	32
Mns..	36.8	13.3	41.4	3.5	65.0	34.8	58.4	30.1	68.0	42.4	59.8 ^b	36.0 ^a	50.9	38.3	61.5	39.6	49.2	26.6	61.8	45.8	51.2	40.3	58.9	25.8	65.0	39.4	61.0	39.8

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Fran- cisco.		San Jose.		San Luis Obispo.		Santa Bar- bara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1.	61	35	62	41	55	48	67	47	68	37	56	36	54	47	68	38	45	18	63	37	38	20	.....	51	16
2.	66	43	60	42	59	47	61	45	65	41	57	42	58	50	66	35	45	18	56	41	35	17	.....	56	16
3.	68	35	59	41	60	44	55	44	62	33	60	34	59	54	60	40	41	20	57	34	36	20	.....	50	17
4.	65	35	56	39	60	48	58	48	62	41	64	40	58	45	60	39	43	26	58	35	38	18	.....	55	13
5.	61	42	59	39	61	52	62	51	67	44	67	42	63	45	60	45	43	25	59	32	40	22	.....	53	15
6.	70	49	62	42	65	54	66	49	68	39	68	49	68	59	65	42	44	20	63	36	31	24	.....	53	18
7.	56	49	64	48	62	54	63	54	61	50	62	50	55	54	62	40	48	20	63	42	37	22	.....	52	21
8.	61	46	58	46	62	52	59	53	61	50	63	51	60	52	64	40	47	23	59	50	42	27	.....	42	18
9.	67	38	64	45	69	50	64	48	65	40	68	47	67	64	65	37	45	24	62	43	44	28	.....	50	20
10.	67	38	65	44	61	49	56	45	58	42	68	48	70	45	64	37	47	24	63	39	44	27	.....	50	20
11.	66	39	63	40	59	51	58	47	59	47	66	42	57	49	58	49	47	23	62	40	43	22	.....	60	16
12.	71	37	66	41	57	49	55	45	60	42	53	44	57	50	57	36	43	24	64	37	42	28	.....	65	16
13.	77	37	67	38	59	42	55	43	56	38	68	44	63	41	60	34	48	24	67	35	44	30	.....	68	16
14.	74	42	70	46	60	44	65	44	65	39	73	43	60	41	73	32	47	27	71	41	43	22	.....	63	23
15.	77	43	68	42	73	44	70	50	71	42	79	48	77	41	72	39	48	26	68	40	43	28	.....	67	21
16.	78	45	70	47	61	45	66	50	69	41	72	41	65	45	69	38	55	22	68	41	44	28	.....	70	23
17.	68	45	62	46	64	47	62	50	62	41	62	43	60	50	64	38	55	27	58	46	43	27	.....	74	22
18.	60	44	54	52	60	47	56	38	62	40	67	39	61	34	63	35	25	55	39	37	5	.....	77	22	
19.	44	33	56	40	55	42	55	47	57	41	56	36	60	40	60	31	40	26	56	36	22	15	.....	65	21
20.	52	28	54	35	58	40	56	45	57	31	56	34	59	35	60	26	31	21	57	30	22	12	.....	54	15
21.	48	40	42	38	54	48	50	42	52	38	51	36	50	45	55	26	35	9	42	36	24	15	.....	47	18
22.	51	37	52	34	56	47	50	42	57	32	56	33	56	41	55	25	39	26	55	28	25	10	.....	48	14
23.	51	34	52	34	60	45	51	42	56	35	51	32	46	38	58	28	39	27	57	31	25					